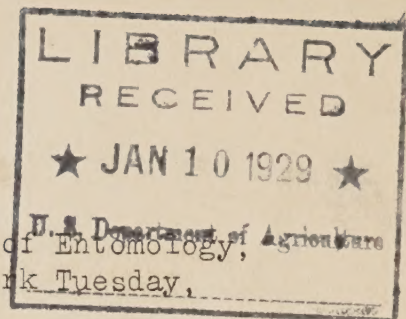


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WHAT ABOUT THE CORN BORER?



Radio talk delivered by Dr. W. H. Larrimer, Bureau of Entomology,
United States Department of Agriculture, through NBC network Tuesday,
October 16, 1928, 12:15 p.m., C. S. T.

If insects are constituted like human beings, probably the European corn borer has suffered these last two years from an attack of the swell-head brought on by an overdose of limelight. Without much doubt this notorious pest has received more attention from the public than any other insect. Since 1926 the attention of the Corn Belt has been focused on the corn borer situation. In that year, you will recall, it was found that the borer had ruined the corn over an area of 1,200 square miles in the southern part of the Province of Ontario, Canada.

From its deadly work in Canadian fields, it was apparent that the corn borer might threaten our two billion dollar corn crop. So, naturally enough, farmers and all interested in farming are continually asking entomologists the question which titles this talk -- "What about the corn borer this year"? The answer is that just now we can't tell the full extent of spread of the insect during the season just drawing to a close. The scouts who are searching out new infested areas won't complete their work until later in the Fall. But we can say that indications are that the normal spread has occurred this year. That means the borer has advanced 20 or 30 miles into new territory.

However, while we wait for the scouts to find the newly infested territory, we can look over the experience of the past years in fighting the corn borer here and in Canada, and see what conclusions come from that experience.

But first perhaps we should have just a brief review of the history of the European corn borer in this country, and an explanation of its personal habits. We have to know its habits in order to find the best point of attack upon it.

The corn borer was introduced into this country, probably about 1910, in shipments of broom corn from southern and central Europe. It now seems quite likely that the first quotas of these undesirable immigrants were established in at least three separate places -- near Boston, Mass., near Schenectady in eastern New York, and near St. Thomas in Ontario, Canada.

In 1917 corn borers were discovered near Boston. At once investigation started. As the borer advanced into new territory the organization for research steadily expanded. Every effort has been made and is being made and to find methods of control. At present six federal laboratories for study of corn borer problems are operating in infested territory in the United States. The federal government maintains a seventh laboratory in central Europe to study the insect in its native haunts. Federal entomologists also are searching in Europe and in the Orient for effective parasitic enemies of the pest.

Corn Belt farmers are particularly interested in the western infested areas, resulting from the St. Thomas infestation. This area now includes southern and eastern sections of Michigan, northeastern Indiana, and the northern two-thirds of Ohio, and almost the entire states of Pennsylvania and New York. However, the infestation is very light over most of this area -- in fact, the borer is rather difficult to find. Only in a few fields along a very narrow strip bordering Lake Erie has commercial damage occurred.

The caterpillar stage of the corn borer is the one in which it does damage. The full-grown caterpillar is about one inch long, has a dark brown head, and many small brown spots on its body. It is a different insect entirely from the common corn ear worm which we are all familiar.

The corn borer caterpillar lives through the winter in pieces of corn-stalk or stubble and sometimes in weeds and other plant material growing close to corn. That is where the corn borer makes its mistake. This habit of spending six months in comparatively useless portions of the corn plant, or in weeds, makes it possible to destroy its winter quarters without any direct loss. In other words, the corn borer can be controlled by destroying all old corn-stalks, stubble, and other pieces of the corn plant after they are no further use about the farm. This clean-up must be completed by June 1 of the year following the infested corn crop, because the moths fly soon after that date.

Experience has developed a good many methods of destroying the winter quarters of the corn borer. The surest is burning. Plowing under all corn remnants is effective. Putting corn in the silo kills practically all of the borers. So does husking and shredding. There is also some promise of adjusting the time of planting corn so as to evade or greatly reduce infestation by the borer.

The results of these methods of control have made the outlook less dark than it appeared at first. Even though the corn borer continues its march into the Corn Belt, as it inevitably will, it can be controlled so that corn growing will not have to be abandoned.

1. The first part of the paper is devoted to a general

discussion of the problem and the methods used in the

present work. It is shown that the problem is of great

importance and that the methods used are of a general

character and can be applied to a wide range of

problems of this kind. The results of the present

work are given in the following sections.

2. In the second part of the paper the results of the

present work are given. It is shown that the results

are of a general character and can be applied to a

wide range of problems of this kind. The results

are given in the following sections.

3. In the third part of the paper the results of the

present work are given. It is shown that the results

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are given in the following sections.

4. In the fourth part of the paper the results of the

present work are given. It is shown that the results

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wide range of problems of this kind. The results

are given in the following sections.

5. In the fifth part of the paper the results of the

present work are given. It is shown that the results

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wide range of problems of this kind. The results

The corn borer completely ruined the corn crop in parts of Kent and Essex Counties, Ontario, in 1925 and 1926. Then the clean-up plan went into effect in those counties. Last year corn borer damage was reduced. Again this year, following the clean-up, the borer toll was lighter. The corn acreage in Kent and Essex counties which had been reduced 65 per cent was increased this year 25 per cent. And here's the important thing: very good mature corn is now being harvested in the same fields where complete destruction was experienced three years ago. These results prove conclusively that farmers are both willing and able to control the corn borer once they have personally seen evidence of the severe damage it can do.

Our problem therefore seems to be one of keeping down borer damage by thorough clean-up of all remnants of the old corn crop before June 1 each year.

It has become apparent that the natural spread of the pest can't be stopped. The Corn Belt is going to get it. After the caterpillars spend the winter in the old cornstalks they go through a brief resting stage and then produce moths. By the flight of these moths the insect naturally goes some 20 to 30 miles into new territory each year. The only way to stop this spread would be to exterminate every last corn borer. But because of the fact that the caterpillars can live in more than 200 kinds of plants, extermination would mean the creation of a desert in city, town, and country, throughout the known area of infestation, as well as in any area that might later be discovered to be infested. Obviously such a procedure is out of the question.

To sum up: The corn borer can't be exterminated.. We can't stop its spread. The only remedy is corn borer control.

The first part of the paper is devoted to a general discussion of the problem.

In the second part, we shall consider the special case of the problem.

The third part of the paper is devoted to a detailed analysis of the results.

In the fourth part, we shall discuss the implications of the results.

The fifth part of the paper is devoted to a summary of the results.

In the sixth part, we shall discuss the conclusions of the paper.

The seventh part of the paper is devoted to a discussion of the future work.

In the eighth part, we shall discuss the acknowledgments.

The ninth part of the paper is devoted to a discussion of the references.

In the tenth part, we shall discuss the appendix.

The eleventh part of the paper is devoted to a discussion of the figures.

In the twelfth part, we shall discuss the tables.

The thirteenth part of the paper is devoted to a discussion of the results.

In the fourteenth part, we shall discuss the conclusions of the paper.

The fifteenth part of the paper is devoted to a discussion of the future work.

In the sixteenth part, we shall discuss the acknowledgments.

The seventeenth part of the paper is devoted to a discussion of the references.

In the eighteenth part, we shall discuss the appendix.

The nineteenth part of the paper is devoted to a discussion of the figures.

In the twentieth part, we shall discuss the tables.

The twenty-first part of the paper is devoted to a discussion of the results.

In the twenty-second part, we shall discuss the conclusions of the paper.

The twenty-third part of the paper is devoted to a discussion of the future work.

In the twenty-fourth part, we shall discuss the acknowledgments.

The twenty-fifth part of the paper is devoted to a discussion of the references.

In the twenty-sixth part, we shall discuss the appendix.